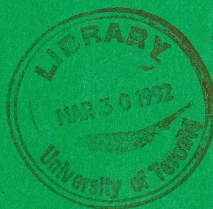


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PUBLICATION 296 SUPPL.

# 1992 Supplement



to

## Field Crop Recommendations 1991-1992 Edition



Ontario

Ministry of  
Agriculture  
and Food



To the best of the collective knowledge of the members of the Ontario Crop Protection Committee, all pesticides listed in this publication were federally registered, reviewed by the Ontario Pesticides Advisory Committee and classified by the Ministry of the Environment as of November 6, 1991.

The information presented on the pesticide container label regarding application rates and methods of application are the final authority and where conflicts occur between this publication and the container label, the latter applies.

**PAY CLOSE ATTENTION TO ALL INSTRUCTIONS AND WARNINGS PRINTED ON THE PESTICIDE LABEL.**

The Ministry of Agriculture and Food, or the Ontario Crop Protection Committee by printing this publication does not offer any warranty or guarantee and they do not assume any liability for any crop loss, animal loss, health, safety or environmental hazard caused by the use of a pesticide mentioned in this publication.

**POLICY STATEMENT**

In this publication, most recommendations list several pesticides that are effective for each insect or disease discussed. Where possible, the less hazardous materials and those that growers have used satisfactorily for a number of years are listed first. These are followed by the more toxic pesticides and/or newer ones with which we have less experience. It must be emphasized that, in some cases, the most effective pesticides are highly toxic.

Weather and other factors influence the effectiveness of pesticides and the likelihood of plant injury by control chemicals. Consult the package label and other information regarding compatibility with other materials, the effect of high or low temperatures, poor drying conditions, etc. Wettable or soluble powders (WP or SP) generally are less likely to cause plant injury than liquid concentrates (EC, SC, and F).

A number of brand names of pesticides are given in the calendars as a convenience to the grower and are neither an endorsement of the product nor a suggestion that similar products are not effective.

The pesticide recommendations are reviewed annually by the Ontario Crop Protection Committee. **OLD EDITIONS SHOULD BE DISCARDED.**

For additional information or clarification of recommendations, contact Ontario Ministry of Agriculture and Food personnel listed on pages 18-20.

**FEDERAL REGISTRATION AND PROVINCIAL CLASSIFICATION**

Ontario's Pesticides Act and Regulation 751, administered by the Ministry of the Environment, prohibits the sale and use of pesticide products unless they are registered under the federal Pest Control Products Act and classified under the provincial Pesticides Act by being placed in one of six schedules of the Ontario regulation.

**FEDERAL REGISTRATION**

There are three categories:

**1. Full Registration**

Implies that all federal departments involved in the registration process agree that the package was acceptable at the time of registration.

**2. Temporary Registration**

Indicates that there is a need for additional scientific or technical information to acquire a full registration. Temporary registrations expire on the 31st of December each year and the products must be re-registered if they are to be available for use in the following year.

**3. Temporary Registration (Restricted Class)**

Indicates that there is an urgent need for the pesticide but that studies on the safety of the product are incomplete. Such registrations expire on the 31st of December each year and the products must be re-registered if they are to be available for use the following year. The pesticide product presently carrying temporary registration (restricted class) and included in this publication is Bayleton (triadimefon). This material may, or may not, be available for use in 1992.

**PROVINCIAL CLASSIFICATION**

Pesticide products are classified into six schedules in Regulation 751 on the basis of their toxicity, environmental or health hazard, persistence of the active ingredient or its metabolites, concentration and usage. This classification system provides the basis for regulating the distribution, availability and use of pesticide products in Ontario.

For updated information on the regulatory status of these or other pesticides contact the Pesticides Section, Hazardous Contaminants Coordination Branch, Ministry of the Environment, Toronto, Telephone 416-323-5095.

This supplement complements Publication 296, *1991-1992 Field Crop Recommendations*, but does not replace it. Copies of that publication are available from your local OMAF office.

This supplement contains those tables on varieties and pesticides that have changes from the 1991-1992 edition of Publication 296. The revised tables are numbered to correspond with the original tables.

Publication 296 will be revised and published for 1993-1994.

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# CORN

## HYBRID SELECTION

Information on hybrid corn performance is published in the 1992 *Ontario Hybrid Corn Performance Trials* report.

## FERTILIZERS FOR CORN

### Nitrogen

In 1991, the use of a spring nitrate nitrogen test for corn in Ontario was approved. The test accounts for the amount of nitrate nitrogen, expressed in kg/ha, in the 0-60 cm layer (top 2 feet) of the soil. If a 0-30 cm sample is used a conversion factor of the nitrate nitrogen value in kg/ha times 1.62 is to be used.

The test will reflect the nitrogen contribution from legumes plowed down in the fall or fall-applied manure. It may not adequately measure the nitrogen from crop residues or manures plowed down in the spring close to the time of sampling.

The recommended rates shown here are based on a nitrogen/corn price ratio of 5 (i.e. the price per kg of actual N applied is 5 times the price of a kg of grain corn).

**New Table. Nitrogen Recommendation Based on Nitrate Nitrogen**

Nitrate Nitrogen in top 2 feet	Actual Nitrogen Recommended	
(kg/ha)	(kg/ha)	
10	205	
20	185	
30	166	
40	146	
50	127	
60	107	
70	88	
80	68	
90	49	
100	29	
110	10	
115	0	

*Conversion Factors*

a) *kg/ha of nitrate (2 foot) = kg/ha (1 foot) times 1.62*

b) *to convert ppm to kg/ha:*

i) *2 foot sample: kg/ha (2 foot) = ppm × 8*

ii) *1 foot sample: kg/ha (1 foot) = ppm × 4*

*Example: Calculate the nitrate nitrogen in the top 2 feet if the top 1 foot has a concentration of 8 parts per million of nitrate nitrogen.*

*Answer: 8 ppm nitrate nitrogen × 4 × 1.62 = 52 kg/ha of nitrate nitrogen in the top 2 feet.*

# SOYBEANS

## VARIETY SELECTION

Information on soybean variety performance is published in the 1992 *Report, Ontario Soybean Variety Trials*.

## FORAGE CROPS

**Table 24. Recommended Alfalfa Varieties**

Variety	Yield (% of Saranac) <sup>1</sup>		Disease Reaction <sup>2</sup>			Distributor
	S. Ontario	N. Ontario	Bacterial Wilt	Verticillium Wilt	Phytophthora Root Rot	
Admiral	101	98	R	R	R	First Line Seeds
Advance	104	99	R	R	S	Mapleseed Inc.
Algonquin	96	100	HR	S	S	Public
Alouette	99	102	R	S	S	Pickseed Canada Inc.
Ambassador	103	101	R	R	R	Pride Brand Seeds
Anchor	99	100	R	S	S	Oseco Inc.
Angus	98	102	HR	S	S	Public
Apica	104	104	R	S	S	United Cooperatives of Ontario
Apollo II	99	96	R	MR	HR	Oseco Inc.
Apollo Supreme	103	—	HR	R	R	Mapleseed Inc.

cont'd.



Table 24. *cont'd.*

Variety	Yield (% of Saranac) <sup>1</sup>		Bacterial Wilt	Disease Reaction <sup>2</sup>		Distributor
	S. Ontario	N. Ontario		Verticillium Wilt	Phytophthora Root Rot	
Armor	101	98	R	S	R	Oseco Inc.
Arrow	104	100	HR	R	HR	Pickseed Canada Inc.
Award	101	98	R	S	S	Speare Seeds
Centurion	104	102	HR	R	R	United Cooperatives of Ontario
Champion	103	—	R	MR	MR	Parsons Seeds
Chief	105	102	HR	R	HR	Jacques Canada
Citation	102	103	R	S	S	Mapleseed Inc.
Comsel	99	100	R	S	HR	Norcan Seeds, Speare Seeds
Crown	104	103	R	R	R	Cargill Hybrid Seeds
Crusader	101	101	HR	MR	R	Pride Brand Seeds
DK-122	106	—	HR	R	HR	Dekalb Canada
DK-125	105	103	HR	R	R	Dekalb Canada
DK-135	102	96	MR	MR	MR	Dekalb Canada
Eagle	101	97	HR	MR	MR	Cargill Hybrid Seeds
Edge	102	104	R	R	R	First Line Seeds
Excalibur	103	102	R	R	S	United Cooperatives of Ontario
Glory	101	100	R	S	S	Speare Seeds
G-2833	105	—	HR	R	HR	Funk Seeds
G-2841	107	102	HR	R	R	Funk Seeds
G-2852	104	102	HR	R	R	Funk Seeds
Horizon	105	—	HR	HR	HR	Pride Brand Seeds
Hunter	100	99	R	S	S	Rothwell Seeds
Husky	103	100	R	S	MR	Oseco Inc.
Iroquois	98	100	HR	S	S	Public
Legend	104	—	HR	R	HR	Northrup King Seeds
Magnum	100	100	HR	S	S	Funk Seeds
Magnum Plus	101	99	R	S	R	Funk Seeds
Mohawk	99	98	HR	S	S	Rothwell Seeds, United Cooperatives of Ontario
Noble	101	97	R	S	S	United Cooperatives of Ontario
OAC Minto	100	102	R	S	S	Speare Seeds, Bishop Seeds
Olinda	98	98	R	S	HR	SeCan member
Oneida VR	102	103	R	HR	R	Pickseed Canada Inc.
Pinnacle	102	103	HR	R	MR	Hyland Seeds
Preserve	103	101	R	S	MR	Northrup King Seeds
Saranac	100	100	R	S	S	Public
Shield	103	98	HR	R	R	Rothwell Seeds
Spectrum	101	97	R	S	MR	Labonte Seeds
Starmaster	105	—	R	R	R	Oseco Inc., Corland Seeds Ltd.
Sure	104	106	HR	R	R	Northrup King Seeds
Surpass	102	105	HR	R	R	Oseco Inc.
Thor	100	100	HR	S	S	Northrup King Seeds
Thunder	98	96	R	S	R	Oseco Inc.
Tomahawk	102	106	R	MR	MR	Speare Seeds
Turbo	102	100	R	S	R	Pickseed Canada Inc.
Ultra	105	104	R	R	R	Hyland Seeds
Verta+	104	102	HR	R	R	Speare Seeds
WAMPR	103	—	R	R	R	United Cooperatives of Ontario
WL 222	98	101	R	S	MR	King Agro, Speare Seeds
WL 316	101	99	MR	R	MR	King Agro, Speare Seeds
88	102	102	R	R	MR	Mapleseed Inc.
120	102	101	HR	S	R	Dekalb Canada
526	101	100	HR	S	S	Pioneer Hi-Bred
532	102	101	HR	S	S	Pioneer Hi-Bred
5262	106	—	HR	S	R	Pioneer Hi-Bred
5311	107	101	HR	MR	R	Pioneer Hi-Bred
5364	108	—	R	MR	MR	Pioneer Hi-Bred
5432	100	101	HR	R	MR	Pioneer Hi-Bred
Pickseed 8920MF	107	101	HR	R	HR	Pickseed Canada Inc.

<sup>1</sup> A. 1% difference in yield index represents a difference of 120 kg/ha in Southern Ontario and 86 kg/ha in Northern Ontario. Average yield for Saranac in Southern Ontario trials 12.0 t/ha; in Northern Ontario trials 8.6 t/ha. A dash (—) indicates less than three public tests available, thus a yield figure is not included.

<sup>2</sup> HR = Highly Resistant (more than 50% resistant plants); R = Resistant (31 to 50% resistant plants); MR = Moderately Resistant (15 to 30% resistant plants); S = Susceptible (less than 15% resistant plants).

**Table 25. Recommended Bird's-foot Trefoil Varieties**

Variety	Yield (% of Leo)		First Flower		Regrowth	Variable Drainage Tolerance	Distributor
	S. Ontario	N. Ontario	(Guelph)	(Kapuskasing)			
Leo	100	100	June 23	June 30	Medium to Slow	Good	Public Variety
Upstart	101	92	June 23	June 30	Medium to Slow	Good	Pickseed Canada Inc.
Empire	98	94	July 1	July 7	Slow	Excellent	Public Variety

*Average yield of Leo in southern Ontario trials 8.2 t/ha; in northern Ontario trials 6.7 t/ha.*

**Table 26. Recommended Double-Cut Red Clover Varieties**

Variety	Yield (as % of Florex) <sup>1</sup>				First Flower		Distributor
	Southern Ontario		Northern Ontario		(Guelph)	(Kapuskasing)	
	Year 1	Year 2	Year 1	Year 2			
Arlington	98	93	93	91	June 15	June 29	Public Variety
Atlas	102	96	102	—	June 16	June 30	Northrup King Seeds
Walter	104	100	100	—	June 17	July 1	Pickseed Canada Inc., Mapleseed Inc.
Redland III	—	—	—	—	June 18	July 2	Oseco Inc.
Florex	100	100	100	100	June 18	July 2	Northrup King Seeds
Prosper I	101	96	98	99	June 18	July 2	King Agro
Persist	103	97	101	—	June 19	July 3	Northrup King Seeds

*Average yield of Florex, southern Ontario trials 9.6 t/ha; in northern Ontario trials 6.2 t/ha.*

<sup>1</sup> A dash (—) indicates less than three public tests available, thus a yield figure is not included.

*The average yield of Redland III over all locations and years was 103%.*

**Table 27. Recommended White Clover Varieties**

Variety	Yield (% of Sacramento)		Distributor
	S. Ontario	N. Ontario	
California Ladino	100	98	Public Variety
Canopy	99	101	Most Distributors
Merit	106	102	Public Variety
Sacramento	100	100	Tib Szego Associates Ltd.

*Average yield of Sacramento, southern Ontario trials 6.5 t/ha; in northern Ontario trials 4.9 t/ha.*



**Table 28. Recommended Timothy Varieties**

Variety	Yield (% of Climax)		Heading Date		Regrowth	Distributor
	S. Ontario	N. Ontario	(Guelph)	(Kapuskasing)		
Toro	98	97	June 20	July 3	Good	Oseco Inc.
Basho	97	102	June 22	July 2	Good	Secan Member
Richmond	103	102	June 22	July 2	Good	Mapleseed Inc., Pickseed Canada Inc.
Champ	102	103	June 23	July 1	Good	Public
Mariposa	102	98	June 24	July 2	Good	United Co-operatives of Ontario
Nike	101	102	June 24	July 1	Fair	Pickseed Canada Inc.
Itasca	102	100	June 25	July 3	Fair	United Co-operatives of Ontario
Alexander	100	101	June 26	July 4	Fair	Speare Seeds
Argus	104	104	June 26	July 4	Fair	King Agro
Carola	105	97	June 26	July 2	Good	Oseco Inc.
Timfor	101	100	June 26	July 3	Fair	Northrup King Seeds
Climax	100	100	June 28	July 5	Fair	Public
Glenmor	100	88	June 28	July 3	Good	Northrup King Seeds
NorMax	100	107	June 28	July 5	Good	United Co-operatives of Ontario
Winmor	101	96	June 29	July 6	Fair	Northrup King Seeds

*Average yield of Climax, southern Ontario trials 8.4 t/ha; in northern Ontario trials 7.7 t/ha.*

**Table 29. Recommended Bromegrass Varieties**

Variety	Yield (% of Baylor)		Heading Date		Distributor
	S. Ontario	N. Ontario	(Guelph)	(Kapuskasing)	
Baylor	100	100	June 10	June 26	Oseco Inc.
Beacon	101	105	June 10	June 25	United Co-operatives of Ontario
Bravo	99	108	June 10	June 25	Pickseed Canada Inc.
Saratoga	97	107	June 10	June 24	Public
Tempo	96	105	June 10	June 24	Pickseed Canada Inc., Mapleseed Inc.

*Average yield of Baylor, southern Ontario trials 8.3 t/ha; in northern Ontario trials 7.6 t/ha.*

**Table 30. Recommended Orchardgrass Varieties**

Variety	Yield (% of Hallmark)		Heading Date		Distributor
	S. Ontario	N. Ontario	(Guelph)	(Kapuskasing)	
Hallmark	100	100	June 2	June 15	United Co-operatives of Ontario
Juno	98	101	June 2	June 15	Mapleseed Inc., Pickseed Canada Inc.
Rapido	101	101	June 4	June 16	Pickseed Canada Inc.
Napier	100	101	June 8	June 16	Oseco Inc.
Rancho	99	103	June 10	June 16	United Co-operatives of Ontario
Kay	99	105	June 12	June 18	Oseco Inc.
Sumas	102	103	June 12	June 18	Oseco Inc.
Mobite	100	103	June 14	June 21	Parsons Seeds

*Average yield of Hallmark, southern Ontario trials 9.7 t/ha; in northern Ontario trials 6.0 t/ha.*

**Table 31. Recommended Reed Canarygrass Varieties**

Variety	Yield (% of Vantage)		Heading Date		Distributor
	S. Ontario	N. Ontario	(Guelph)	(Kapuskasing)	
Vantage	100	100	June 10	June 24	Pickseed Canada Inc., Mapleseed Inc.
Palaton	99	94	June 11	June 25	Oseco Inc.
Venture	102	90	June 11	June 24	Speare Seeds

*Average yield of Vantage, southern Ontario trials 11.8 t/ha; in northern Ontario trials 8.5 t/ha.*

**Table 32. Recommended Meadow Foxtail Varieties**

Variety	Yield (% of Mountain)		Heading Date		Distributor
	S. Ontario	N. Ontario	(Guelph)	(Kapuskasing)	
Mountain	100	100	May 12	May 27	Pickseed Canada Inc., Mapleseed Inc.
Dan	98	100	May 15	May 30	Oseco Inc.

*Average yield of Mountain, southern Ontario trials 9.2 t/ha; in northern Ontario trials 5.3 t/ha.*

**Table 33. Recommended Tall Fescue Varieties**

Variety	Yield (% of Stef)		Heading Date		Distributor
	S. Ontario	N. Ontario	(Guelph)	(Kapuskasing)	
Courtenay	106	103	June 10	June 23	Parsons Seeds
Festorina	96	93	June 10	June 21	Oseco Inc.
Stef	100	100	June 13	June 23	Oseco Inc.

*Average yield of Stef, southern Ontario trials 8.0 t/ha; in northern Ontario trials 7.5 t/ha.*



# CEREAL CROPS

## VARIETY SELECTION

Table 46. Recommended Barley Varieties

Variety	Area Recommended	Awn Type	Test Weight <sup>1</sup> (kg/hL)	TKW <sup>2</sup> (g)	Height <sup>3</sup> (cm)	Lodging <sup>4</sup>	Maturity <sup>5</sup>	Diseases <sup>6</sup>				
								Leaf Rust	Loose Smut	Scald	Spot Blotch	Mildew
2-Rowed												
Albany	All	Rough	64	43	74	2	92	5	3	8	8	1
Lester	All	Rough	65	45	74	2	91	5	3	8	8	1
Morrison	All	Rough	65	43	76	2	92	5	2	8	8	0
Symko	All	Rough	65	42	80	3	92	8	3	8	8	0
6-Rowed												
Chapais	All	Rough	61	44	75	2	91	7	5	5	8	5
Etienne	All	Smooth	61	38	82	2	92	8	2	5	8	7
Leger	All	Smooth	61	37	91	3	92	8	1	5	8	8
Maskot <sup>7</sup>	All except IV	Rough	63	39	87	2	93	7	2	5	8	2
OAC Kippen		Rough	63	38	87	4	91	7	6	5	5	0
Sabina		Rough	62	39	87	2	92	8	2	5	8	1

Values are given to indicate relative differences between varieties; actual values will differ depending on growing conditions and disease pressures

<sup>1</sup> Test weight (kg/hL) x .8 = lb/bu.

<sup>2</sup> TKW – thousand kernel weight.

<sup>3</sup> In general, plants will be taller in the south and shorter in the north.

<sup>4</sup> Scale of 0-9, where 0 = standing and 9 = flat.

<sup>5</sup> Days to harvest. Subtract 5 days for areas I-IV and 10 days for area VI.

<sup>6</sup> Scale of 0-9, where 0 = very resistant and 9 = very susceptible.

<sup>7</sup> May be removed from the recommended list in 1993.

Table 47. Relative Barley Yields<sup>1,2</sup>

Variety	Test Areas					
	I	II	III	IV	V	VI
Albany	107	101	100	107	93	91
Lester	110	103	98	106	94	96
Morrison	120	99	98	99	99	102
Symko	106	98	100	97	100	95
Chapais	102	110	95	110	107	112
Etienne	97	102	100	93	104	98
Leger	94	99	109	94	104	108
Maskot	88	92	95	(98) <sup>3</sup>	94	97
OAC Kippen	88	100	100	99	101	98
Sabina	88	96	105	97	104	103
Average yield <sup>4</sup> (t/ha)	3.69	3.99	3.63	4.60	4.85	4.43

<sup>1</sup> Expressed as a percentage of the average yield of recommended varieties in each area.

<sup>2</sup> Three year average (1989-91) except for test area I (1989-90 only)

<sup>3</sup> Yields shown in brackets are for varieties not recommended in that area.

<sup>4</sup> 1 t/ha=893 lbs/ac.

Table 48. Recommended Oat Varieties

Variety	Area Recommended	Type	Test weight (kg/hl) <sup>1</sup>	TKW <sup>2</sup> (g)	Height <sup>3</sup> (cm)	Lodging <sup>4</sup>	Maturity <sup>5</sup>	Diseases <sup>6</sup>			
								Barley		Septoria	Smut
								Leaf Rust	Yellow Dwarf		
Donegal	All	yellow	47	37	102	3	97	8	3	5	4
Marion	All	white	47	38	106	4	95	8	8	8	5
Newman	All	white	49	37	97	3	94	3	5	8	1
Ogle	All	yellow	47	32	88	1	93	5	3	5	5
Ultima	All except I	white	44	33	96	2	97	7	8	8	1

Values are given to indicate relative differences between varieties; actual values will differ depending on growing conditions and disease pressure.

<sup>1</sup> Test weight (kg/hl) x .8 = lb/bu.

<sup>2</sup> TKW – thousand kernel weight.

<sup>3</sup> In general, plants will be taller in the south and shorter in the north.

<sup>4</sup> Scale of 0-9, where 0 = standing and 9 = flat.

<sup>5</sup> Days to harvest. Subtract 5 days for areas I-IV and add 10 days for area VI.

<sup>6</sup> Scale of 0-9 where 0 = very resistant and 9 = very susceptible.

Table 49. Relative Oat Yields<sup>1,2</sup>

Variety	Test Areas					
	I	II	III	IV	V	VI
Donegal	114	98	103	100	104	104
Marion	89	96	105	99	100	108
Newman	97	101	94	94	95	94
Ogle	117	111	92	106	102	99
Ultima	82	94	106	100	99	94
Average yield <sup>3</sup> (t/ha)	2.88	3.13	3.28	5.11	4.71	6.17

<sup>1</sup> Expressed as a percentage of the average yield of recommended varieties in each area.

<sup>2</sup> Two year average (1990-91) except for test area VI (1991 only)

<sup>3</sup> 1 t/ha = 893 lbs/ac

Table 50. Recommended Hard Red Spring Wheat Varieties<sup>1,2,3,4</sup>

Variety	Relative Yield <sup>5</sup> Areas			Relative Test Wt. <sup>6</sup> Areas			TKW <sup>7</sup> (g)	Height (cm)
	II	III	V	II	III	V		
Celtic	103	104	100	100	101	100	33	79
Roblin	97	96	100	100	99	100	33	83
Average	3.08	2.79	3.69	72.5	74.2	70.9		

<sup>1</sup> Area II and III data based on four year averages (1988-1991). Area V data based on two year averages (1990-1991).

<sup>2</sup> Varieties are recommended for all Areas except Area I.

<sup>3</sup> Area IV growers should consult Area II information

<sup>4</sup> Long term averages indicate that lodging, mildew, and leaf rust scores are similar for both varieties.

<sup>5</sup> Expressed as a percentage of the average yield of listed varieties.

<sup>6</sup> Expressed as a percentage of the average test weight of listed varieties.

<sup>7</sup> TKW – Thousand kernel weight.



**Table 53. Recommended Soft White Winter Wheat Varieties<sup>1,2</sup>**

Variety	Area Recommended	TKW <sup>3</sup> (g)	Awns	Height (cm)	Sprouting <sup>4</sup> Resistance	Lodging <sup>5</sup>	Diseases <sup>6</sup>		
							Leaf Rust	Scab	Mildew
Annette	II,III	40	—	99	MT	3	5	4	1
Augusta	II,III	35	—	100	MT	2	5	4	4
Ena	I	34	+	99	S	2	5	2	3
Harmil	I,II	33	—	101	MS	2	4	4	4
Harus	I,II	35	—	95	MS	2	5	3	3
Karena	I,II,III	36	—	99	MS	2	4	3	2
Rebecca	I,II,III	36	+	93	VS	2	5	3	3

*Winter survival is similar for all varieties.*

*All varieties should be seed treated to control loose smut.*

*Values are given to indicate relative differences between varieties; actual values will differ depending on growing conditions and disease pressure.*

<sup>1</sup> Data based on four year averages (1988-1991)

<sup>2</sup> Area IV growers should consult Area II information.

<sup>3</sup> TKW – Thousand kernel weight.

<sup>4</sup> S = Susceptible, VS = Very Susceptible, MS = Moderately Susceptible, MT = Moderately Tolerant

<sup>5</sup> Scale of 0-9 where 0 = standing and 9 = flat

<sup>6</sup> Scale of 0-9 where 0 = very resistant and 9 = very susceptible.

**Table 54. Relative Soft White Winter Wheat Yields<sup>1,2,3</sup>**

Variety	Test Areas		
	I	II	III
Annette	(97) <sup>4</sup>	100	109
Augusta	(93)	99	107
Ena	101	(95)	(94)
Harmil	97	99	(90)
Harus	101	100	(94)
Karena	102	105	106
Rebecca	108	103	101
Average yield (t/ha)	4.29	5.01	3.54

<sup>1</sup> Expressed as a percentage of the average yield of recommended varieties.

<sup>2</sup> Four year average (1988-1991) of recommended varieties; 1 t/ha = 893 lbs./ac.

<sup>3</sup> Area IV growers should consult Area II information.

<sup>4</sup> Relative yields in brackets are for varieties not recommended in that area.

**Table 55. Relative White Winter Wheat Test Weights<sup>1,2,3</sup>**

Variety	Test Areas		
	I	II	III
Annette	(100) <sup>4</sup>	100	101
Augusta	(96)	97	98
Ena	102	(102)	(101)
Harmil	100	99	(99)
Harus	102	101	(100)
Karena	101	101	101
Rebecca	99	100	99
Average Yield (t/ha)	72.5	72.7	78.9

<sup>1</sup> Expressed as a percentage of the average test weight of recommended varieties.

<sup>2</sup> Four year average (1988-1991) of recommended varieties; kg/hl x .8 = lbs./bu.

<sup>3</sup> Area IV growers should consult Area II information.

<sup>4</sup> Relative test weights in brackets are for varieties not recommended in that area.

**Table 56. Recommended Hard Red Winter Wheat Varieties<sup>1,2</sup>**

Variety	Area Recommended	TKW <sup>3</sup> (g)	Height (cm)	Sprouting <sup>4</sup> Resistance	Lodging <sup>5</sup>	Diseases <sup>6</sup>		
						Leaf Rust	Scab	Mildew
Strong gluten <sup>7</sup> :								
Absolvent	II	40	87	R	2	4	4	4
Karat	I,II,III	39	101	R	1	3	2	2
Medium gluten <sup>7</sup> :								
Ruby	I,II,III	37	87	R	2	3	3	4

Winter survival is similar for all varieties.

All varieties should be seed treated to control loose smut.

Values are given to indicate relative differences between varieties; actual values will differ depending on growing conditions and disease pressure.

<sup>1</sup> Data based on five year averages (1987-1991), and collected under normal management conditions.

<sup>2</sup> Area IV growers should consult Area II information.

<sup>3</sup> TKW – Thousand kernel weight.

<sup>4</sup> R = Resistant.

<sup>5</sup> Scale of 0-9, where 0 = Standing and 9 = Flat.

<sup>6</sup> Scale of 0-9, where 0 = Very resistant and 9 = Very susceptible.

<sup>7</sup> Strong gluten wheats should be kept separate from medium gluten wheats.



**Table 57. Relative Hard Red Winter Wheat Yields<sup>1,2,3</sup>**

Variety	Test Areas		
	I	II	III
<b>Strong gluten:</b>			
Absolvent	(97) <sup>4</sup>	100	(96)
Karat	103	100	104
Average Yield (t/ha)	3.71	4.25	4.05
<b>Medium gluten:</b>			
Ruby	100	100	100
Average Yield (t/ha)	4.90	5.01	4.71

<sup>1</sup> Five year average (1987-1991); 1 t/ha = 893 lbs/ac.

<sup>2</sup> Expressed as a percentage of the average yield of listed varieties.

<sup>3</sup> Area IV growers should consult Area II information.

<sup>4</sup> Relative yields in brackets are for varieties not recommended in that area.

**Table 58. Relative Hard Red Winter Wheat Test Weights<sup>1,2,3</sup>**

Variety	Test Areas		
	I	II	III
<b>Strong gluten:</b>			
Absolvent	(101) <sup>4</sup>	100	(100)
Karat	99	100	100
Average Test Wt. (kg/hL)	76.2	76.3	83.9
<b>Medium gluten:</b>			
Ruby	100	100	100
Average Test Wt. (kg/hL)	77.1	75.9	81.2

<sup>1</sup> Five year average (1987-1991) of listed varieties; kg/hL x .8 = lbs/bu.

<sup>2</sup> Expressed as a percentage of the average test weight of listed varieties.

<sup>3</sup> Area IV growers should consult Area II information.

<sup>4</sup> Relative test weights in brackets are for varieties not recommended in that area.

**Table 59. Recommended Winter Barley Varieties**

Variety	Area Recommended	Awn Type	Test weight <sup>1</sup> (kg/hl)	TKW <sup>2</sup> (g)	Height <sup>3</sup> (cm)	Lodging <sup>4</sup>	Maturity <sup>5</sup>	Diseases <sup>6</sup>			
								Barley Leaf Rust	Yellow Dwarf	Mildew	Scald
OAC Elmira	Areas I & II	Rough	63	34	99	3	65	1	3	0	1

<sup>1</sup> Test weight (kg/hl) x .8 = lb/bu.

<sup>2</sup> TKW - thousand kernel weight.

<sup>3</sup> In general, plants will be taller in the south and shorter in the north.

<sup>4</sup> Scale of 0-9, where 0 = standing and 9 = flat.

<sup>5</sup> Days from May 1.

<sup>6</sup> Scale of 0-9, where 0 = very resistant and 9 = very susceptible.

**Table 61. Distributors for Cereal Grain Varieties**

	Variety	Distributor	Breeder
Barley	Albany	SeCan Members	Charlottetown Res. Station
	Chapais	SeCan Members	Ste. Foy Research Station
	Etienne	W.G. Thompson & Sons Ltd.	W.G. Thompson & Sons Ltd.
	Leger	SeCan Members	Plant Res. Centre, Ottawa
	Lester	W.G. Thompson & Sons Ltd.	W.G. Thompson & Sons Ltd.
	Maskot	W.G. Thompson & Sons Ltd.	Semico, St. Hyacinthe
	Morrison	SeCan Members	Plant Res. Centre, Ottawa
	OAC Kippen	SeCan Members	OAC, Guelph
	Sabina	U.C.O.	Semico, St. Hyacinthe
	Symko	First Line Seeds	Plant Res. Centre, Ottawa
Oats	Donegal	W.G. Thompson & Sons Ltd.	W.G. Thompson & Sons Ltd.
	Marion	SeCan Members	Ste. Foy Research Station
	Newman	SeCan Members	Plant Res. Centre, Ottawa
	Ogle	Public	U. of Illinois
	Tibor	W.G. Thompson & Sons Ltd.	Plant Res. Centre, Ottawa
	Ultima	W.G. Thompson & Sons Ltd.	Ste. Foy Research Station
Spring Wheat			
Feed	Glenlea	Public	Univ. of Manitoba
Milling	Celtic	W.G. Thompson & Sons Ltd.	Agripro, Colorado
	Roblin	SeCan Members	Winnipeg Res. Station
Winter Barley	OAC Elmira	W.G. Thompson & Sons Ltd.	OAC, Guelph
Winter Wheat			
Soft White	Annetta	SeCan Members	Harrow Res. Station
	Augusta	W.G. Thompson & Sons Ltd.	Michigan State Univ.
	Ena	SeCan Members	Harrow Res. Station
	Harmil	Bolton Farm Seeds	Plant Res. Centre, Ottawa
	Harus	SeCan Members	Harrow Res. Station
	Karena	W.G. Thompson & Sons Ltd.	W. G. Thompson & Sons Ltd.
	Rebecca	W.G. Thompson & Sons Ltd.	W.G. Thompson & Sons Ltd.
Hard Red	Absolvent	C&M Seeds, Aishling Farm Seeds	Dr. P. Franck, Germany
	Karat	C&M Seeds, Aishling Farm Seeds	Probsdorfer, Austria
	Ruby	W.G. Thompson & Sons Ltd.	W.G. Thompson & Sons Ltd.

**Table 69. Armyworm Control**

Insecticide	Product per ha	Days to Harvest
Dylox 420LC	1.5L	21
Sevin XLR PLUS 480 Su <sup>1</sup>	2.5-5.25L	14
*Lannate L215	2.0L	20

LC (Liquid Concentrate); L (Liquid); Su (Suspension).

\*Minimum period before reentry is 24 hours.

Barley has a pre-harvest interval of 28 days. <sup>1</sup> Several formulations of Sevin are available for use according to label instructions. Sevin XLR PLUS is recommended because it is less hazardous to bees. Follow precautions applying to honeybees.





**Table 72. Distributors for Dry Edible Bean Varieties**

<b>Variety</b>	<b>Distributor</b>
AC Harblack	Public Variety
Areteuben	Public Variety
California Light Red	Public Variety
California Dark Red	Public Variety
California White	Public Variety
Centralia	Public Variety
Crestwood	Cooks, W.G. Thompson & Sons Ltd.
Dresden	Public Variety
EX Rico 23	Public Variety
Fleetside	Cooks, W.G. Thompson & Sons Ltd.
Harowood	Public Variety
Midland	W.G. Thompson & Sons Ltd.
Mitchell	Public Variety
OAC Cygnus	Public Variety
OAC Gryphon	Public Variety
OAC Rico	Public Variety
OAC Seaforth	Public Variety
OAC Sprint	Public Variety
Rocket	W.G. Thompson & Sons Ltd.
Sacramento	Public Variety
Shetland	Public Variety
Stinger	W.G. Thompson & Sons Ltd.
Taylor Hort 34	Public Variety
Vista	Cooks, W.G. Thompson & Sons Ltd.
Wesland	W.G. Thompson & Sons Ltd.

## SPRING AND WINTER CANOLA

### VARIETY SELECTION

High levels of free fatty acids (FFA) were a serious problem in Ontario spring canola in 1988 and 1991. High FFA levels occur when oil molecules in the seed break apart. The acceptable upper limit is 1% FFA in the oil. All spring canola cultivars listed can produce seed which has unacceptably high levels of FFA in the oil under certain growing conditions, which mainly appear to be related to environmental stresses (i.e. heat and drought) during the seed-filling stage of growth. Generally, high FFA levels occur in seedlots with high brown (= prematurely aborted) seed content at harvest. In addition, there appear to be consistent differences among spring canola varieties in FFA content. Varieties are listed with their FFA levels in 1991 and their brown seed contents in 1989-91.

The Ontario canola crushers have stated they may not accept (or may accept at heavy discounts) any seed of spring canola grown in Ontario with high levels of FFA in 1992. Growers choosing to grow varieties which have been asterisked will be increasing their risk of having the crop rejected or discounted.



**Table 78. Recommended and Available Spring Canola Varieties**

Variety	Days from Planting to Maturity <sup>1</sup>	Yield <sup>2,3</sup> (t/ha)	Free <sup>4</sup> fatty acids (%)	Brown <sup>5</sup> seeds (%)	Lodging <sup>1</sup> 1=erect 5=flat	Distributor
<b>Recommended</b>						
Legend	96	2.48	1.16	2.8	2.4	Bonis & Co. Ltd.
Cyclone	97	2.81	1.17	3.1	2.1	King Agro
Kristina	98	2.68	0.93	2.0	2.2	W.G. Thompson and Sons Ltd.
Delta	99	2.72	0.96	2.5	2.3	W.G. Thompson and Sons Ltd.
WW1432	99	2.81	0.96	2.7	2.8	W.G. Thompson and Sons Ltd.
<b>Available</b>						
*HC-120	97	2.81	1.35	2.9	2.1	King Agro
*Vanguard	97	2.51	1.52	3.4	1.7	Bonis & Co. Ltd.
*HC-110	98	2.74	1.52	4.8	1.3	King Agro
*Celebra	98	2.68	2.14	5.1	1.4	Bonis & Co. Ltd.
*Hornet	101	2.77	1.91	5.1	2.8	Speare Seeds
*Global	101	2.56	2.10	6.9	1.6	Bonis & Co. Ltd.
<b>Triazine Resistant</b>						
*Stallion	100	1.92	2.57	5.9	1.7	Bonis & Co. Ltd.
*OAC Triumph	101	1.77	2.30	5.5	2.1	SeCan Members

<sup>1,3,5</sup> Values shown are averages of 18, 19 and 12 trials, respectively in 1989-91.

<sup>2</sup> 1 t/ha = 893 lb/ac = 17.86 bu/ac.

<sup>4</sup> Values shown are averages of 6 trials in 1991.

\* These varieties may be removed from Publication 296 in 1993 because of high free fatty acid levels.

**Table 82. Flea Beetle Control**

Insecticide	Product per ha	Days to Harvest
Seed-furrow application:		
Counter 5G	5.5 - 11 kg	Planting time only
Furadan 5G	4.5 - 5.5 kg	
Furadan CR-10G	2.8 kg	
Postemergent spray:		
Cymbush 250 EC	140 mL	30
Ripcord 400 EC	50 mL	30
Decis 2.5 EC	200 - 300 mL	14
*Furadan 480 F	150 - 275 mL	60
*Guthion 240 SC	275 - 550 mL	30
*Guthion Solupak 50 WP	150 - 275 g	30
Sevin XLR PLUS 480Su	500 mL	60
Supracide 240 EC	730 mL	30

G (Granular); F (Flowable); WP (Wettable Powder); SC (Sprayable Concentrate); EC (Emulsifiable Concentrate); CRI Special formulation for Canola Rape); Su (Suspension).

\* Minimum period before reentry into treated areas is 48 hours. See reentry into Treated Areas (1991-1992 issue).

**Table 84. Recommended Winter Canola Varieties**

Variety	Yield <sup>1,2</sup> (t/ha)	Winter <sup>3</sup> Survival (%)	Maturity <sup>2</sup> Date (July)	Lodging <sup>2</sup> 1 = erect 5 = flat	Blackleg <sup>4</sup> Rating 0 = none 4 = dead	Distributor
Ceres	2.76	95	6	1.6	1.6	King Agro
Falcon	2.79	83	6	1.7	1.4 <sup>5</sup>	King Agro

<sup>1</sup> t/ha = 893 lb/ac = 17.86 bu/ac.

<sup>2,3,4</sup> Values shown are averages for 11, 8 and 6 trials, respectively, harvested in 1989-91.

<sup>5</sup> In areas with severe blackleg disease, Falcon exhibits less damage from blackleg.

**Table 94. Insecticides**

Trade Name & Formulation (active ingredient)	Insecticide Classification	Days to Harvest	Relative Toxicities	Aerial Application	Distributors	Use and Remarks	Ontario Schedule <sup>1</sup>
Ambush 500 EC (permethrin)	pyrethroid	Not after 5-leaf stage	Moderate	No	ICI Chipman UCO	Corn	3
Bactospiene ( <i>bacillus thuringiensis</i> )	Bacterial toxin	0	Low	Yes	Bartlett U.A.P.	Seed Corn	3
Basudin 50 W (diazinon)	organo- phosphorus	14	Moderate	Yes	Ciba-Geigy	Alfalfa, corn, field beans, peas. Toxic to bees.	2
Counter 15 G, 5G (terbufos)	organo- phosphorus	planting time only	High	No	Cyanamid	Corn, Canola	5
Cygard 15-G (terbufos + phorate)	organo- phosphorus	planting time only	High	No	Cyanamid	Corn	5
Cygon 480 E (dimethoate)	organo- phosphorus	2 Alfalfa 7 Beans	Moderate	Yes	Bartlett ICI Chipman Cyanamid UCO	Alfalfa, field beans. Toxic to bees.	2
Cymbush 250 EC (cypermethrin)	pyrethroid	30 Canola 5 Corn	Moderate	No	ICI Chipman UCO	Corn, Canola	2
Decis 2.5 EC (deltamethrin)	pyrethroid	14	Moderate	No	Hoechst	Canola	2
Dipel SC ( <i>Bacillus thuringiensis</i> )	Bacterial toxin	0	Low	Yes	Wilbur-Ellis	Timothy	3
Di-Syston 15 G, 720 LC (disulfoton)	organo- phosphorus	planting time only	High	No	U.A.P. Van Waters & Rogers	Corn	5
Dyfonate II 20 G (fonofos)	organo- phosphorus	planting time only	High	No	ICI Chipman UCO, U.A.P. Cargill	Corn	5
Dylox 80% SP, 420 Liquid (trichlorfon)	organo- phosphorus	21	Low	Yes	U.A.P.	Canola, cereals. Relatively safe to bees.	3
Furadan 5G, 10G, CR-10G (carbofuran)	carbamate	planting time only	High	No	Bartlett, UCO Van Waters & Rogers	Corn, Canola	2

**Table 94. Insecticides (cont.)**

Trade Name & Formulation (active ingredient)	Insecticide Classification	Days to Harvest	Relative Toxicities	Aerial Application	Distributors	Use and Remarks	Ontario Schedule <sup>1</sup>
Furadan 480F (carbofuran)	carbamate	60 Canola 7 Alfalfa	High	Yes Permit Required	U.A.P.	canola, alfalfa. Toxic to bees.	5
Guthion 240 SC Guthion Solupak 50 WP (azinphos-methyl)	organo-phosphorus	3 Beans 21 Alfalfa 30 Grain	High	Yes Permit Required	Bartlett U.A.P.	Field beans, soybeans. Toxic to bees.	5
Imidan 50 WP (phosmet)	organo-phosphorus	7	Moderate	Yes	Bartlett ICI Chipman	Alfalfa. Toxic to bees.	3
Lannate L. (methomyl)	carbamate	21	High	Yes	U.A.P. Van Waters & Rogers	Grain	2
Lorsban 4 E, 15 G (chlorpyrifos)	organo-phosphorus	70	Moderate	Yes Permit Required	U.A.P.	Corn	2, 3
Malathion 500 EC (malathion)	organo-phosphorus	7	Low	Yes	Bartlett U.A.P. UCO	Alfalfa, grain crops, field beans, soybeans. Toxic to bees. Less effective below 16°C	3
Ripcord 400 EC (cypermethrin)	pyrethroid	30	Moderate	No	Ciba-Geigy	Canola, corn	2
Sevin XLR PLUS 480 Su (carbaryl)	carbamate	5 Beans 2 Alfalfa 14 Cereals	Moderate	Yes	Rhone-Poulenc UCO	Alfalfa, cereals, beans, corn, canola	3
Supracide 240 EC (methidathion)	organo-phosphorus	30	High	Yes	Bartlett ICI Chipman UCO, U.A.P. Cargill, Van Waters & Rogers, W.G. Thompson	Canola	2
Thimet 15 G (phorate)	organo-phosphorus	planting time only	High	No	Cyanamid	Corn	2
Thiodan 4 EC (endosulfan)	organo-chlorine	2	Moderate	Yes	Hoechst U.A.P., UCO	Field beans, soybeans. Toxic to bees.	2
Thuricide HPC ( <i>Bacillus thuringiensis</i> )	Bacterial toxin	0	Low	Yes	Sandoz	Timothy	3

<sup>1</sup> The numbers identify the Schedules in which the TRADE NAME products listed in this Table are classified under the Pesticides Act. See Table 93 for explanation of schedules.



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County	OMAF Offices		Soils and Crops Advisors	
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Kent	Box 726, 435 Grand Ave. W., Chatham N7M 5L1	519-354-2150		
Lambton	Box 730, 360 Highway #21, Petrolia N0N 1R0	519-882-0180	Gabrielle Ferguson	519-882-0180
Middlesex	50 King St., London N6A 2P2	519-434-6811	Peter Johnson	519-434-6811
Oxford	Box 666, Woodstock N4S 7Z5	519-537-6621	Chris Brown	519-537-6621
Elgin	Box 2027, R.R. 5, St. Thomas N5P 3X1	519-631-4700	Hugh Martin	519-631-4700
Norfolk	Box 587, Simcoe N3Y 4N5	519-426-7120	John Harvey	519-759-4190
Brant	515 Park Rd. N., Unit 7, Brantford N3R 7K8	519-759-4190	515 Park Rd. N., Unit 7, Brantford N3R 7K8	
Huron	Box 159, Clinton N0M 1L0	519-482-3428	Alan McCallum	519-482-3428
Perth	413 Hibernia St., Stratford N5A 5W2	519-271-0280	Rob Templeman	519-271-0280
Bruce	220 Trillium Court, R.R. 3, Walkerton N0G 2V0	519-881-3301	Keith Reid	519-881-3301
Grey	181 Toronto St. S., Markdale N0C 1H0	519-986-2040	Joan McKinlay	519-986-2040
Dufferin	R.R. 4, Orangeville L9W 2Z1	519-941-3830	181 Toronto St. S., Markdale N0C 1H0	
Wellington	R.R. 1, Fergus N1M 2W3	519-846-0941	Harvey Wright	519-824-4120
Waterloo	279 Weber St. N., Waterloo N2J 3H8	519-884-5390	c/o Crop Science, University of Guelph Guelph N1G 2W1	ext. 6763
Wentworth	R.R. 1, Ancaster L9G 3K9	416-527-2995	Mark Janiec	416-787-2314
Halton	17 Wilson Dr., Milton L9T 3J7	416-878-2314	17 Wilson Drive Milton L9T 3J7	
Peel	35 Van Kirk Dr., Unit 9 Brampton L7A 1A5	416-451-5474		
York	1110 Stellar Drive, Unit 102, Newmarket L3Y 7B7	416-895-4519		
Haldimand	Box 129, Cayuga N0A 1E0	416-772-3381	Jerry Winnicki	416-892-4741
Niagara-Vineland	Advisory Services Bldg., OMAF Vineland Station L0R 2E0	416-562-4147	726 Canboro Rd., Fenwick L0S 1C0	
Niagara-Fenwick	726 Canboro Rd., Fenwick L0S 1C0	416-892-4741		
Simcoe, North	Box 340, Elmvalle L0L 1P0	705-322-2231	Dave Morris	705-435-5521
Simcoe, South	Box 370, Alliston L0M 1A0	705-435-5521	Box 370, Alliston L0M 1A0	
Durham West	Box 309, Uxbridge L0C 1K0	416-852-3328	Neil Moore	705-324-6125
Victoria-Haliburton	322 Kent St. W., Lindsay K9V 2Z9	705-324-6125	322 Kent St. W., Lindsay K9V 2Z9	
Durham East	234 King St. E., Bowmanville L1C 1P5	416-623-3348		

# ONTARIO MINISTRY OF AGRICULTURE AND FOOD

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Hastings	Box 340, Stirling K0K 3E0	613-395-3393		
Lennox & Addington	41 Dundas St. W., Napanee K7R 1Z5	613-354-3371	Stephen Clare Box 470 Picton K0K 2T0	613-476-3224
Prince Edward	Box 470, Picton K0K 2T0	613-476-3224		
Frontenac	Box 651, 1055 Princess St., Kingston K7L 4X1	613-545-4360		
Leeds	Box 635, Brockville K6V 5V8	613-342-2124	Michael Payne 10 Sunset Blvd., Perth K7H 2Y2	613-267-1063
Grenville	Box 2004, Kemptville K0G 1J0	613-258-8295		
Lanark	10 Sunset Blvd., Perth K7H 2Y2	613-267-1063		
Renfrew	315 Raglan St. S., Renfrew K7V 1R6	613-432-4841	Paul Sullivan 26 Thorncliff Place Nepean K2H 6L2	613-828-9167
Carleton	26 Thorncliff Place Nepean K2H 6L2	613-828-9167		
Dundas	Box 488, Winchester K0C 2K0	613-774-2313	Gilles Quesnel Box 2004 Kemptville K0G 1J0	613-258-8304
Stormont	Box 97, Avonmore K0C 1C0	613-346-2143		
Glengarry	Box 579, St. George St. E., Alexandria K0C 1A0	613-525-1046		
Prescott	Box 110, Plantagenet K0B 1L0	613-673-5115	Paul Beaudin Box 110 Plantagenet K0B 1L0	613-673-5115
Russell	735 Rue Notre Dame, Embrun K0A 1W1	613-443-3391		

## Northern Ontario District Offices

District	OMAF Offices		Soils and Crops Advisor	
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Cochrane N.	Experimental Farm Kapuskasing P5N 2X9	705-335-5828		
Cochrane S.	Box 608, Matheson P0K 1N0	705-273-2509		
Kenora	Ontario Government Building Box 3000, Dryden P8N 3B3	807-223-2415		
Manitoulin	Box 328, Gore Bay P0P 1H0	705-282-2043		
Muskoka & Parry Sound	Box 130, 8 Centre St. N. Huntsville P0A 1K0	705-789-8886		
Nipissing	222 McIntyre St. W. North Bay P1B 2Y8	705-474-3050		
Rainy River	Front St., Emo P0W 1E0	807-482-2310		
Sudbury	1899 LaSalle Blvd. Sudbury P3A 2A3	705-566-1630		
Timiskaming	Box "G", New Liskeard P0J 1P0	705-647-6701		
Thunder Bay	Ontario Government Building 435 James St. S., Thunder Bay P7E 6E3	807-475-1631		

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## Notes

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